

## REMARKS

### *Status of the Claims*

Claims 1, 2, 19, 26, 53, 54 and 81-103 are in the application.

Claims 1, 2, 19, 26, 53, 83-93 and 95-102 were rejected.

Claim 54 was objected to, but not identified in any of the Office Action Summary, Claim Disposition as pending, or Office Action as being rejected. Not having been withdrawn, Applicants assume that the Office has made an inadvertent error in not identifying claim 54 as pending in the application.

Claims 1, 2, 19, 26, 54, 83-90 and 95-102 have been amended.

Upon entry of this amendment, claims 1, 2, 19, 26, 53, 54 and 81-103 will be pending.

### *Summary of the Amendment*

Claims 1 and 2 have been amended to recite the invention more precisely. The claims, as amended, recite a structure and function of the protein and nucleic acid contemplated by the invention. Support for the amendment is found throughout the specification and claims as originally filed.

Claims 19 and 26 have been amended to recite references to SEQ ID NO: 13 and SEQ ID NO: 14. Support for this amendment is found throughout the specification but particularly on page 10, line 5; page 10, lines 16-25; and page 28, lines 24-27.

Claims 83-90 and claims 95-102 have been amended to refer to mutants of Ang-1 proteins, SEQ ID NO: 13 and SEQ ID NO: 14. Support for this amendment is found throughout the specification but particularly on page 15, lines 16-21; and page 28, lines 24-27.

Claim 54 has been amended to correct an obvious grammatical error. Support for the amendment is found throughout the specification and claims as originally filed.

*Claim Rejection Under 35 U.S.C. § 112, first paragraph*

Claims 1, 2, 19, 26, 53, 83-93, and 95-102 stand rejected under 35 U.S.C. § 112, first paragraph, for allegedly failing the written description requirement. The Office asserts that the claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventors, at the time the application was filed, had possession of the claimed invention. Applicants respectfully disagree.

In regards to claims 1 and 2, the Office asserts that the “the claims are devoid of function for the ‘fragment of Ang-1 protein.’” (Office Action, page 3). Applicant note, however, that the claims 1 and 2 recite the terms “extracellular matrix-binding.” Those terms directly modify the protein described in claims 1 and 2 based upon SEQ ID NO:1 and provide a limitation associated with the function of the claimed invention. Applicants have amended claims 1 and 2 to recite the invention more precisely. Claims 1 and 2 recite both structural and functional elements in the claims. Applicants respectfully request that the rejection of claims 1 and 2 based upon 35 U.S.C. § 112, first paragraph, be withdrawn.

The Office has also based its rejection of claims 1 and 2 on the alleged inclusion of new matter in the claims. The Office asserts that:

the claims lack adequate written description with respect to the new matter found in the claims, since the language of “Ang-1 protein consisting of SEQ ID NO:1” is not found in the specification.

(Office Action, page 4). Applicants respectfully disagree and note that the use of the term “comprising” in the claims and specification is not limiting. It is well established that use of the term “comprising” encompasses embodiments of the claimed invention that are limited to the elements being modified by the term and embodiments of the invention that are not limited by the elements being modified by the term. Applicants also direct the Office to pages 5, 6, and 10, lines 16 through 25, which describe the scope of the invention as it relates to proteins that relate to SEQ ID NO: 1. The passage on line 15 specifically refer to SEQ ID NO: 1, SEQ ID NO: 2,

SEQ ID NO:3, *or* SEQ ID NO:4. It is understood from the terms that specification contemplates use of a polypeptide with the sequence of SEQ ID NO: 1.

In regards to claims 19 and 26, the Office asserts that the claims do not recite a particular structure. Applicants disagree, but solely in the interest of expediting patent prosecution Applicants have amended claims 19 and 26 to include specific reference to SEQ ID NOs:13 and 14. The mutant proteins disclosed in claims 19 and 26 are based upon SEQ ID NOs:13 and 14. The amendment obviates the basis of rejection. Applicants therefore respectfully request that the rejection of claims 19 and 26 based upon 35 U.S.C. § 112, first paragraph, be withdrawn.

In reference to claims 83-93 and 95-102, the Office asserts that:

claims such as 86 reciting 95% are rejected herein because there is no structure function correlation since independent claim 19 has a functional limitation but no structure

(Office Action, page 15). Applicants disagree with the rejection but solely in the interest of expediting prosecution have amended claims 83-90 and claims 95-102 to refer to mutants of Ang-1 proteins, SEQ ID NO: 13 and SEQ ID NO: 14. The amendments obviate the basis of rejection. Applicants respectfully request that the rejection of claims 83-93 and 95-102 based upon 35 U.S.C. § 112, first paragraph, be withdrawn.

Claims 1, 2, 19, 26, 53, 83-93, and 95-102 stand rejected under 35 U.S.C. § 112, first paragraph as allegedly failing the enablement requirement. The Office asserts that the specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with the claims. Applicants disagree but solely in the interest of expediting prosecution, Applicants have amended the specification in order to incorporate structural and functional limitations as discussed above. Therefore, as the basis of rejection relates to the scope of the claims, the amendments obviate the basis of the rejection.

The Office also asserts that recitation of a protein with percent homology of Ang-1 “contemplates an enormous variability.” (Office Action, page 7). In support of the rejection, the

Office cites two references that do not describe or suggest anything specific about Ang-1 fragments. The Office has chosen to assert conclusory remarks about what one of ordinary skill in the art would know based upon a negative inference drawn from references that do not discuss Ang-1 mutants. The Office reasoning for the enablement rejection is therefore flawed and the evidence provided by the Office is not relevant to the statements provided in the specification.

Applicants respectfully urge that one of ordinary skill in the art could practice the claimed invention by reading the specification. The claims recite compositions comprising mutants of SEQ ID NO:13 and 14. The specification discloses mutants of SEQ ID NO:13 that have fewer than 50 amino acids in common with SEQ ID NO:13. (Specification, pages 11, 27, and 28). The specification specifically discloses that the mutants prevent normal Ang-1 protein from binding to the ECM, resulting in activation of pathways responsible for angiogenesis. (Specification, page 32-33). The domain responsible for binding to the ECM was identified in the specification. Applicants respectfully urge that the evidence and reasoning in the specification supports the conclusion that one skilled in the art would accept Applicant's assertion that the claims are enabled by the specification. In the absence of any evidence or reasoning in support of the rejection, Applicants are not required to put forth any evidence.

Applicants note that it is well established that the Office has the initial burden of establishing that a claimed invention does not meet the enablement requirement. The description of the invention is presumed to be enabled and, in order to sustain an enablement rejection under the first paragraph of 35 U.S.C. § 112, the Examiner must establish doubt in the objective truth of Applicant's assertion that the claimed invention is enabled using reasoning and evidence of those skilled in the art. See, e.g. *In re Marzocchi*, 439 F.2d 220, 224, 169 USPQ 367, 370 (CCPA 1971). See also M.P.E.P. § 2163.

The Office has failed to set forth any objective reasoning or evidence to support the rejection. The Office has failed to raise objective doubt in statements provided in the specification. The Office has therefore not established that the claimed invention does not meet the enablement requirement. Failing to do so, the evidentiary burden is not properly shifted to Applicants.

The claims are clearly enabled. One of ordinary skill in the art would be able to practice the claimed invention with sufficient guidance. The application is in compliance with the first paragraph of 35 U.S.C. § 112. Applicants respectfully request that the rejection of claims 9, 24, and 28 under 35 U.S.C. § 112, first paragraph, be withdrawn.

***Claim Rejection Under 35 U.S.C. § 112, second paragraph***

Claims 19, 26, 83-93, and 95-102 stand rejected for allegedly being indefinite. More specifically, the Office has rejected claim 19 for failure to reference a sequence upon which a particular amino acid has been based. The Office has rejected claims 19, 26, 83-93, and 95-102 for failure to recite a structure upon which the claim terms are based. Applicants have amended claims 19, 26, 83-90, and 95-102 including references to particular structures of amino acid sequences. The amendments obviate the basis of rejection. Applicants respectfully request that the rejections of claims 19, 26, 83-93, and 95-102 under 35 U.S.C. §112, second paragraph, be withdrawn.

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**PATENT**  
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***Conclusion***

Claims 1, 2, 19, 26, 53, 54 and 81-103 are in condition for allowance. A notice of allowance is earnestly solicited.

The Commissioner is hereby authorized to charge any deficiencies of fees and credit of any overpayments to Deposit Account No. 50-0436.

Respectfully submitted,

/John A. Zurawski, Reg. No. 61,524/  
John A. Zurawski  
Registration No. 61,524

Date: August 20, 2008  
Pepper Hamilton, LLP  
400 Berwyn Park  
899 Cassatt Road  
Berwyn, PA 19312  
Telephone: 610.640.7855  
Facsimile: 610.640.7835